HUNGER BEFORE THE DROUGHT: FOOD INSECURITY IN AFGHANISTAN[1]

Introduction

Food security is realized "when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life" (FAO, 2002). Food insecurity is thus defined as the lack of adequate physical, social or economic access to food.

Food insecurity and malnutrition are some of the most serious manifestations of protracted crises, which disrupt livelihoods and food systems. Over half of the Afghan population, approximately 16 million people, lives below the poverty line, a sharp increase over the last decade. Rural poverty remains consistently higher than urban poverty, although the deterioration in welfare has become more widespread across the country. The high poverty rates represent the combined effect of stagnating economic growth, increasing demographic pressures, and a deteriorating security situation in the context of an already impoverished economy and society where human capital and livelihoods have been eroded by decades of conflict and instability.

Food insecurity has increased in line with poverty and in 2016-17, 13 million Afghans (or 45 percent of the population) were food insecure (deficient in meeting minimum norms for calories). Of these, an estimated 3.9 million were very severely, 4.1 million severely and 5.0 million moderately food insecure, with a larger number and proportion of the rural population affected by food insecurity. In 2017-18, Afghanistan experienced a drought which affected 22 of its 34 provinces, exacerbating food insecurity, triggering internal displacement of people, and adversely affecting investments in the 2018-19 agricultural season. Changing climatic conditions, a growing population, and other environmental stressors will likely continue to have significant impact on food security going forward.

The diet of the Afghan population is not only generally inadequate in quantity, it is also qualitatively poor. Overall, half of the population has poor or borderline food consumption in terms of caloric adequacy, and this number is highest among rural residents. About 30 percent of Afghans do not consume adequate protein (at least 50 grams per person per day) from their food basket. Inadequate food quantity and

[1] This report was prepared by a team of the Poverty and Equity Global Practice comprised of Nandini Krishnan, Zihao Wang, and Christina Wieser. An accompanying brief summarizes the key findings and proposes policy recommendations. The analysis presented in this report precedes the 2018 drought, which affected 22 out of Afghanistan's 34 provinces, and exacerbated food insecurity. The team thanks Sharad Tandon and Dean Jolliffe for their valuable advice and suggestions during the writing of this report.

quality can have particularly severe effects on the nearly 1.4 million children under the age of five who are vulnerable to malnutrition.

The objectives of the analysis presented in this note are twofold. First, it provides an overview of how the Afghan population fares in terms of food security by providing in-depth analysis of a range of food security indicators during the time period 2007 and 2016. Second, the analysis enables us to identify contributing factors to food insecurity such as inaccessibility of markets and losses in self-production of food.

It is important to put the timing of the survey in context. The latest round of ALCS was collected prior to Afghanistan entering drought conditions due to deficit rain and snowfall of past years. The impacts of the current drought are severe in some areas of Afghanistan and an estimated 2.6 million people nationwide require urgent humanitarian action to reduce their food deficits and to protect their livelihoods, survive until the next harvest, and prepare for next year's planting season. In September 2018, 9.8 million people (43.6 percent of the rural population) were estimated to be in Food Crisis and Emergency (IPC Phase 3 and Phase 4). Guaranteeing fair access to resources, water management and adopting appropriate agricultural practices, and increasing sources of rural employment and income are key to overcoming food insecurity in the future.

Measuring Food Security in Afghanistan

One of the main objectives of the Afghanistan Living Conditions Surveys (ALCS, formerly the National Risk and Vulnerability Assessment or NRVA) is to provide information on welfare and living standards, on their evolution over time, and their distribution across households. Of importance is the measurement and tracking of welfare, including food security, amongst the poorest segments of the population. The ALCS survey data provide the principal means for estimating the extent and severity of food security in Afghanistan. The ALCS collects quantities of consumed food and sources of food at the household level using a seven-day recall period. This allows for the calculation of household and population food security indices.

Food security in terms of quantity is measured by understanding whether people meet their caloric requirement. Caloric requirements are based on international standards using a minimum caloric intake which varies by sex and age. In Afghanistan, accounting for harsh weather and climatic conditions, caloric intake is also adjusted by season to account for larger required intake during cold winter months.[2] Food security in terms of quality is measured by looking at an adequate dietary diversity as well as whether Afghans consume a sufficient amount of protein (more than 50 grams per person per day).

[2] For a detailed outline of the methodology of measuring food security, please refer to the annex.

Measuring food quantity

One way of measuring food security is to assess whether a person consumes a sufficient number of calories (measured in kilocalories) to lead a healthy life; or caloric deficiency. Caloric intake varies by sex and age and the applied caloric thresholds are displayed in Table 1.[3] The thresholds in column 2 and 3 are adjusted by adding the calories in columns 4 and 5 during the winter months[4] for individuals living in provinces with harsh winters.

Table 1: Caloric requirement, by sex, age, winter months

AGE GROUPS	KCAL REQUIREMENT		WINTER ADJUSTMENT	
	Male	Female	Male	Female
0-4	1320	1250	0	0
5-9	1980	1730	100	100
10-14	2370	2040	150	150
15-19	2700	2120	300	300
20-59	2460	1990	300	300
60+	2010	1780	300	300

Source: WFP.

The analysis on the sufficiency of the quantity of diet is undertaken by considering the following categories of caloric intake:

- Very severely food insecure: in shortfall of 600 or more Kcal per person per day
- Severely food insecure: in shortfall of 300-599 Kcal per person per day
- Moderately food insecure: in shortfall of 1-299 Kcal per person per day
- Borderline food secure: consuming the exact requirement or 1-300 Kcal per person per day more
- Adequately food secure: consuming more than 300 Kcal of the requirement per person per day

Measuring food quality

In addition to caloric intake, this analysis considers an assessment of the Afghan diet by looking at protein deficiency as well as dietary diversity. Protein deficiency is defined as a person consuming less than the daily requirement of at least 50 grams of protein per day and is measured by aggregating the number of grams of protein consumed by a person across food items.

We measure inadequate dietary diversity based on food consumption as measured by the weighted Food Consumption Score (FCS). The FCS is a score calculated using a combination of food diversity and frequency of consumption of different food groups consumed by a household, weighted by the relative

[3] Information on caloric thresholds provided by WFP Afghanistan.
[4] The number of winter months vary by province and were provided by WFP.

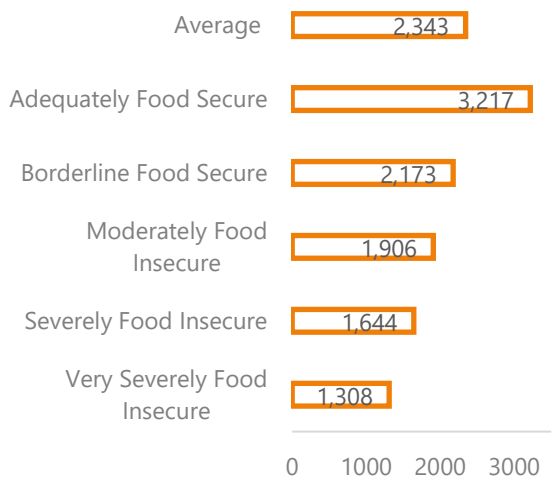
nutritional importance of different food groups. If the FCS is less than 42, a person is considered to be consuming a diet of inadequate diversity.

Trends in food insecurity, 2007-2016

Caloric deficiency is measured by assessing a person's caloric intake and comparing it against a threshold of what is considered sufficient to lead a healthy life. In Afghanistan, the average caloric consumption across the population is 2,343 calories per person per day in 2016-17 (Figure 1). Caloric intake by food security status varies dramatically. Afghans who are adequately food secure consume on average 3,200 calories per day, 2.5 times as many calories as those considered very severely food insecure. Individuals who are very severely food insecure consume on average only 1,300 calories per day, a caloric intake not even adequate for children aged 0-4 during winter months. Consumed calories increase slightly for severely and moderately food insecure Afghans but are nevertheless low.

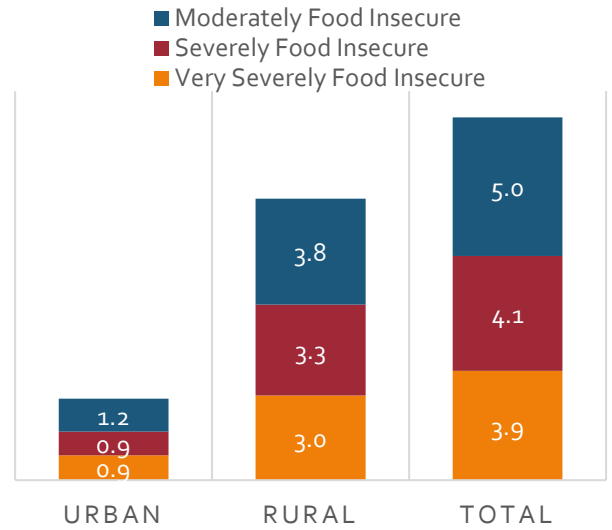
As a result of the stark caloric deficiency, 13 million Afghans are considered to be food insecure; 3.9 million of which are very severely food insecure, 4.1 million are severely food insecure, and 5.0 million are moderately food insecure (Figure 2). Food security has a clear spatial dimension. Over three quarters of Afghans who are considered food insecure—10 million people—live in rural areas, slightly more than in accordance to its population distribution.

Figure 1: Calories per person per day, 2016-17



Source: Staff estimates based on ALCS 2016-17 (NSIA).

Figure 2: Food insecure population (caloric deficiency), in millions, 2016-17



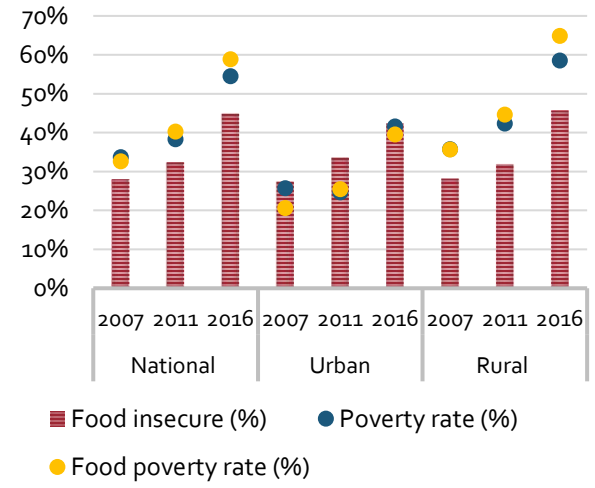
Source: Staff estimates based on ALCS 2016-17 (NSIA).

Even prior to the 2018 drought, food insecurity was high and deteriorating

The percentage of population who was food insecure increased from 28 percent in 2007-08 to 45 percent in 2016-17 (Figure 3). The increase in food insecurity is reflected in trends in poverty during this time period. Poverty increased from 34 percent in 2007-08 to over 55 percent in 2016-17. Food poverty rates (food expenditure compared to the food poverty line) have increased to an even larger extent and in 2016-17, almost 60 percent of Afghans were food poor.

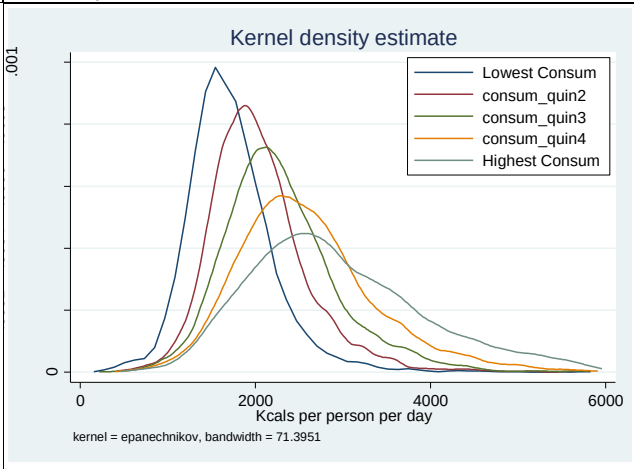
Figure 4 shows the caloric distribution of poverty quintiles; we observe that caloric consumption was highly correlated with welfare. The caloric distribution of the poorest 20 percent of the population are not only much lower, the distribution is also much narrower, indicating that most people in this group consumed a similarly low number of calories, around the mean value of the distribution. The distribution of the richest 20 percent not only shows that they consume the highest number of calories, it also indicates that the consumption pattern is a lot less uniform with people consuming a much wider range of calories.

Figure 3: Poverty and food security, 2007-2016



Source: Staff estimates based on NRVA 2007-08, NRVA 2011-12, and ALCS 2016-17 (NSIA).

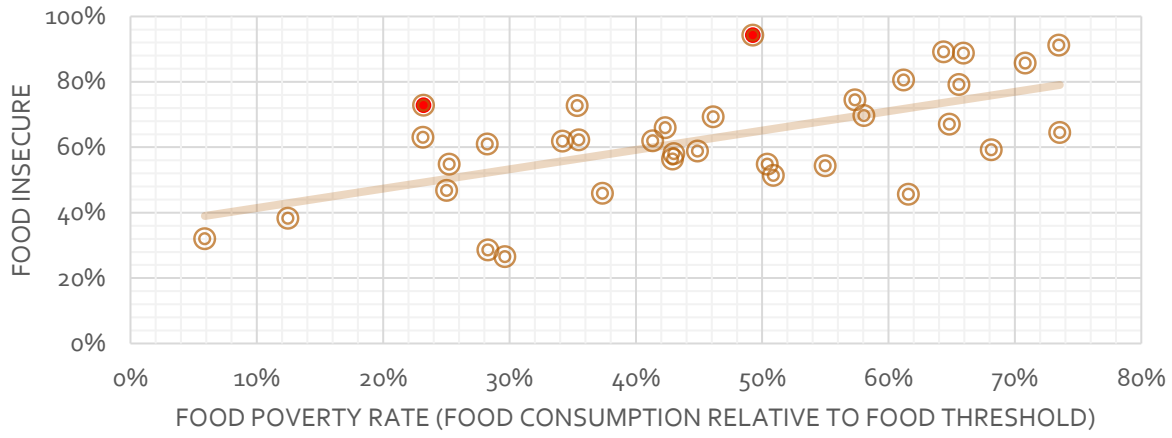
Figure 4: Distribution of calories by poverty quintile, 2016-17



Source: Staff estimates based on ALCS 2016-17 (NSIA).

Across provinces, higher food poverty was generally correlated with higher rates of food insecurity (Figure 5) with two exceptions, Daykundi and Helmand. In Daykundi food insecurity is incredibly high at 94 percent, yet, food poverty is less than 50 percent. In Helmand, we also observe higher food insecurity (73 percent) with rather low food poverty (23 percent). These contradictions may be due to data quality issues, or alternatively, reflect situations where households consume very few calories, but spend disproportionately more on acquiring these calories.

Figure 5: Food insecurity vs. food poverty, by province, 2016-17



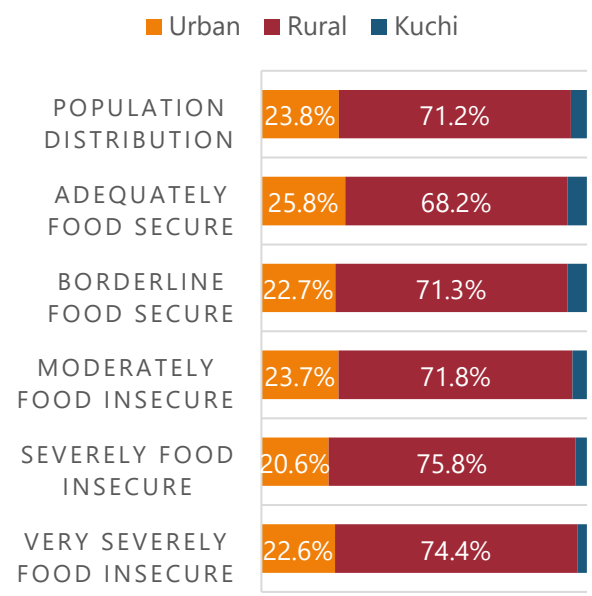
Source: Staff estimates based on ALCS 2016-17 (NSIA).

Food insecurity was already high in some of the drought-affected provinces

Food insecurity in Afghanistan has a clear spatial dimension. Over three quarters of Afghans who were considered food insecure in 2016-17—10 million people—lived in rural areas. Of all Afghans who were food insecure, the majority lived in rural areas, and faced a higher incidence (Figure 6). Only about half of rural Afghans are (adequately or borderline) food secure and 3 out of 10 rural Afghans are very severely or severely food insecure (Figure 7).

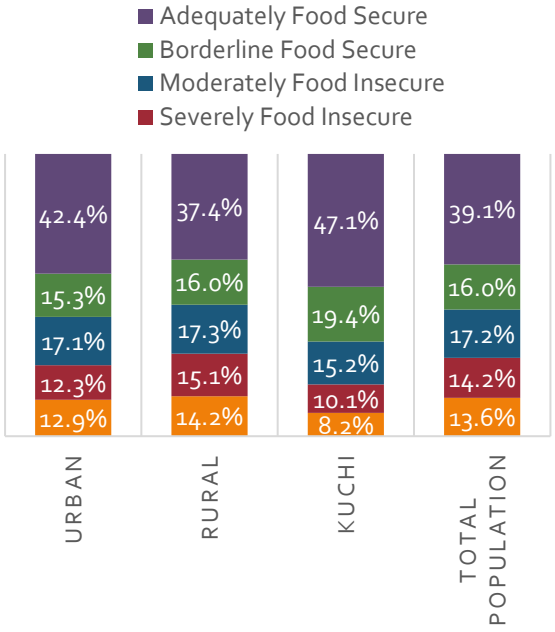
Food insecurity also varies substantially by province. About 50 percent of the food insecure in 2016-17 lived in just one-third of Afghanistan's provinces (Figure 8). Food insecurity was particularly high in some of the provinces most severely affected by the 2018 drought (Figure 9). For example, over 60 percent of the population in Badakhshan and 50 percent of the population in Badghis and Daykundi were already food insecure in 2016-17.

Figure 6: Distribution of food insecure population by location, 2016-17



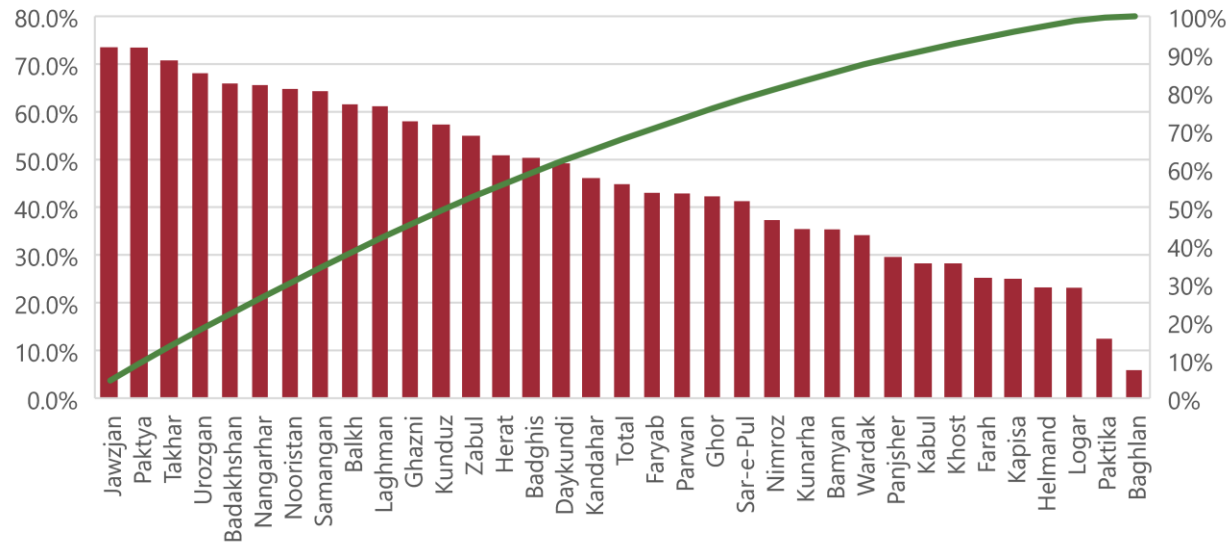
Source: Staff estimates based on ALCS 2016-17 (NSIA).

Figure 7: Distribution of population by food security status, 2016-17



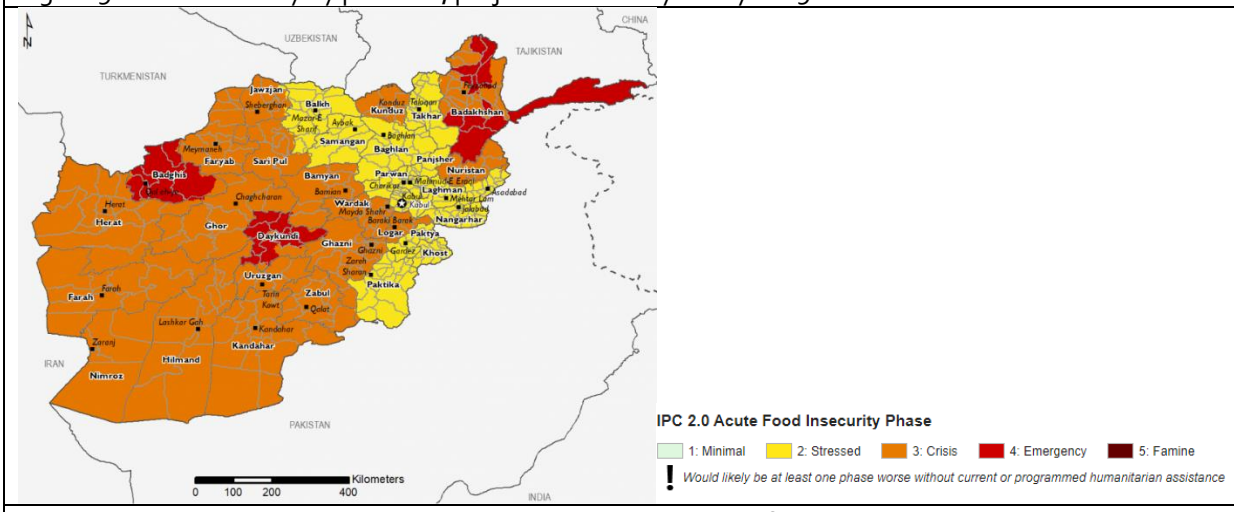
Source: Staff estimates based on ALCS 2016-17 (NSIA).

Figure 8: Food insecurity by province, 2016-17



Source: Staff estimates based on ALCS 2016-17 (NSIA).
Note: Cumulative distribution displayed on the right-hand side axis

Figure 9: Food insecurity by province, projected February – May 2019



Source: Famine Early Warning System Network (FEWS NET) as of February 4, 2019.

Lack of incomes, poor dietary diversity, and inadequate nutrition underpin food insecurity

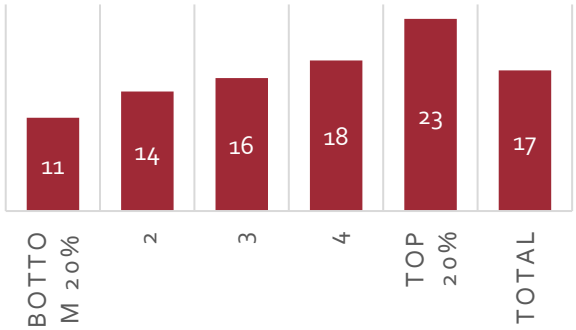
Afghans are very poor - more than half of the population lives below the national poverty line and consumes less than 2,056 Afs per person per month (roughly equivalent to USD 1 per person per day using market exchange rates). Poverty increased from 34 percent in 2007-08 to 55 percent in 2016-17, during which time, the cost of basic needs increased by 64 percent, with a slightly larger increase in in the cost of the basic food bundle compared to non-food necessities.

Food insecurity in Afghanistan prior to the 2018 drought was correlated with lack of incomes: of the 16 million Afghans who are poor, 9.7 million were also food insecure (Table 2). The poorest 20 percent of the population consumed only 11 food items on average, half the number of items consumed by the richest 20 percent (Figure 10). However, Afghans who were not poor were not necessarily food secure as 3.4 million Afghans who were not poor were also affected by food insecurity. On the other hand, not all poor Afghans were also food insecure; 6.2 million poor Afghans were not food insecure based on caloric intake.

The consumption of food items varied substantially by province. Though low across the board, Afghans in Daykundi, Ghor, and Samangan consumed a very limited number of food items (Figure 11). Food security is not only achieved by eating a sufficient number of calories per day but also by consuming a diverse diet. An unbalanced and nutritionally inadequate diet is also considered as food insecurity. In Afghanistan, even among people who satisfy their daily caloric requirements, a non-diversified diet is widespread. We thus complement the analysis of measures on caloric intake with measures of diversity of Afghans' diet. We begin by looking at the average number of food items Afghans consume. Figure 12

shows that Afghans not only consume a relatively small number of food items (on average, an Afghan consumes 17 food items per week), food insecure Afghans consume even fewer food items.

Figure 10: Average number of food items by consumption quintile, 2016-17



Source: Staff estimates based on ALCS 2016-17 (NSIA).
Note: The ALCS 2016-17 collected information on 92 food items.

Table 2: Millions of poor and insecure Afghans, ALCS 2016-17

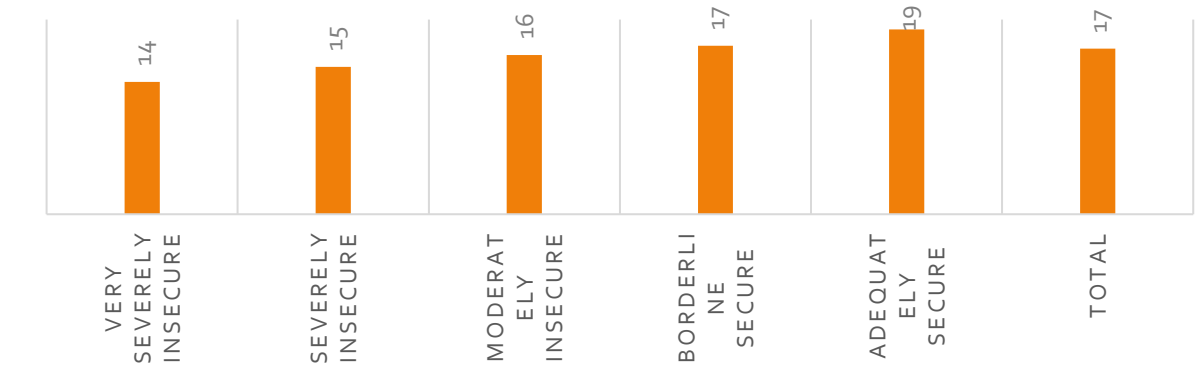
	NON-POOR	POOR	TOTAL
FOOD INSECURE	3.4	9.7	13.1
FOOD SECURE	9.9	6.2	16.0
TOTAL	13.2	15.9	29.1

Source: Staff estimates based on ALCS 2016-17 (NSIA).

Figure 11: Average number of consumed food items by province, 2016-17

Source: Staff estimates based on ALCS 2016-17 (NSIA).

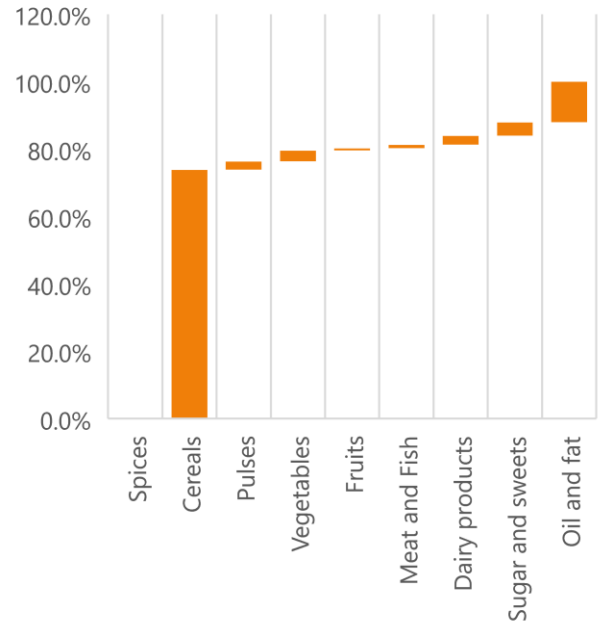
Figure 12: Average number of consumed items by food security status, 2016-17



Source: Staff estimates based on ALCS 2016-17 (NSIA). Note: The ALCS 2016-17 collected information on 92 food items.

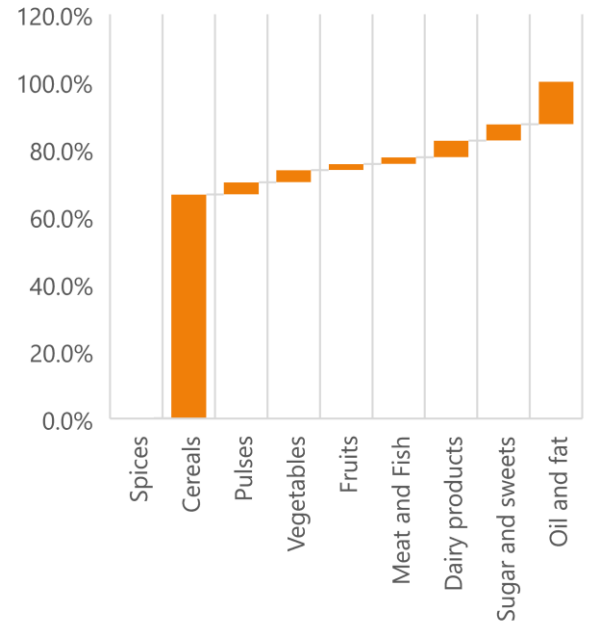
There is evidence of poor dietary diversity among Afghan households, and a heavy reliance on staple cereals as a source of cheap calories. Three quarters of calories of poor Afghans comes from cereals alone, predominantly from wheat and to a lesser extent, rice (Figure 13). The second and third most consumed food group are sugars and oils. Non-poor Afghans also consume two-thirds of their calories from cereals, but their consumption basket is a little more diversified with higher shares of dairy products (Figure 14).

Figure 13: Composition of consumption for poor households, 2016-17



Source: Staff estimates based on ALCS 2016-17 (NSIA).

Figure 14: Composition of consumption for non-poor households, ALCS 2016-17

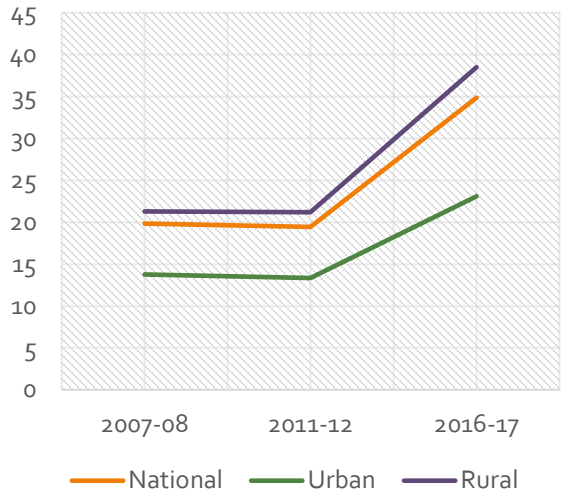


Source: Staff estimates based on ALCS 2016-17 (NSIA).

The consumption of a limited number of food items has consequences for dietary diversity. About 35 percent of Afghans do not consume a diet of sufficient quality—inadequate dietary diversity has almost doubled between 2011-12 and 2016-17, especially in rural areas (Figure 15). Poor Afghans are particularly vulnerable to consuming an inadequate diet with almost half of all poor Afghans showing dietary deficiencies compared to about 20 percent of non-poor Afghans (Figure 16).

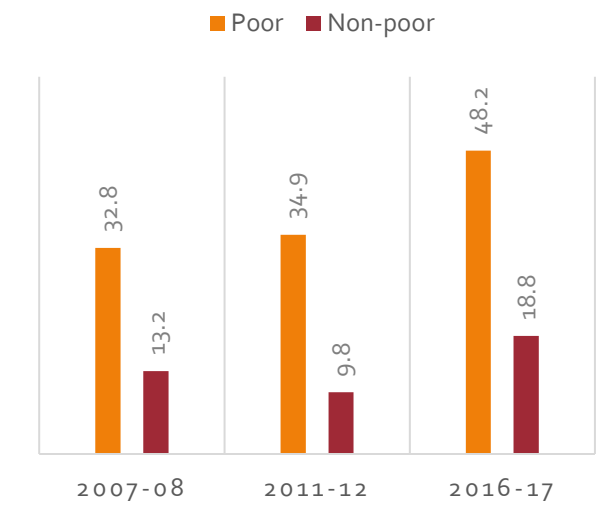
Poor dietary diversity also implies that the Afghan diet often lacks adequate proteins and other micro-nutrients. In 2016-17, 36 percent of Afghans did not consume a sufficient number of proteins per day (less than 50 grams per day). Protein deficiency doubled in the past 10 years, with Afghans living in rural areas experiencing a much larger deterioration in protein intake compared to urban areas (Figure 17). Protein deficiency is much more severe for poor Afghans with over half of poor Afghans not consuming enough protein (Figure 18).

Figure 15: Percentage of population with inadequate dietary diversity, 2007-2016



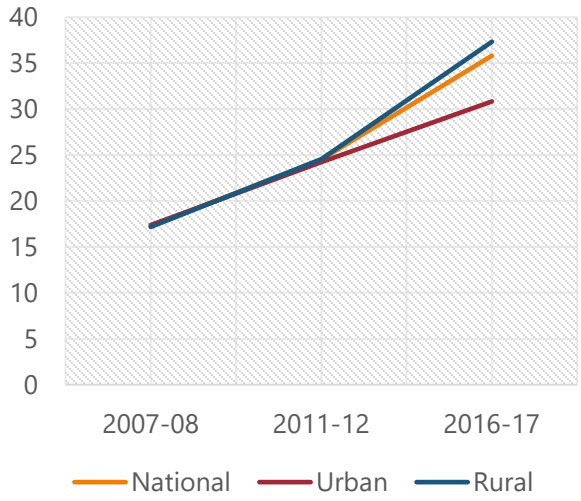
Source: Staff estimates based on NRVA 2007-08, NRVA 2011-12, and ALCS 2016-17 (NSIA).

Figure 16: Percentage of poor and non-poor population with inadequate dietary diversity, 2007-2016



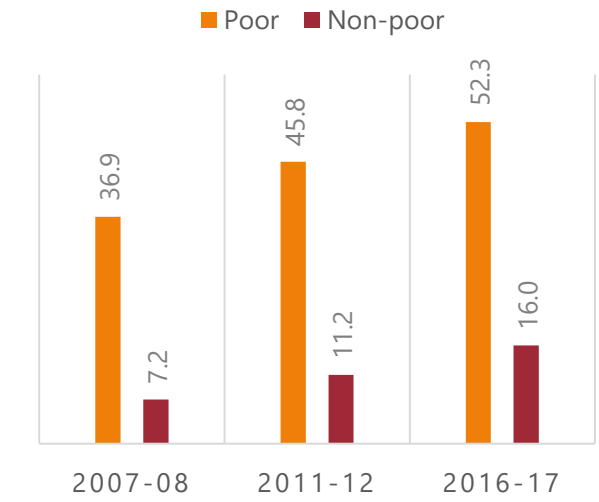
Source: Staff estimates based on NRVA 2007-08, NRVA 2011-12, and ALCS 2016-17 (NSIA).

Figure 17: Percentage of population with protein deficiency, 2007-2016



Source: Staff estimates based on NRVA 2007-08, NRVA 2011-12, and ALCS 2016-17 (NSIA).

Figure 18: Percentage of poor and non-poor population with protein deficiency, 2007-2016



Source: Staff estimates based on NRVA 2007-08, NRVA 2011-12, and ALCS 2016-17 (NSIA).

Afghans suffer from overlapping food security deficiencies

Afghans are food insecure on multiple dimensions. About 13 million Afghans suffer from caloric deficiencies, 10.4 million are protein deficient, and 10.1 million have inadequate dietary diversity (Table 3). However, Afghans are often not only food insecure in one dimension (i.e. dietary diversity or caloric deficiency) and quantitative and qualitative deficiencies overlap. Almost 6 out of 10 Afghans are insecure

on at least one measure of food security, 4 out of 10 are insecure on at least two measures, and 1 out of 5 Afghans (5.5 million people) is insecure on all three dimensions. On the other hand, 11.8 million Afghans are neither deficient in calories, nor deficient in protein and consume an inadequate diet.

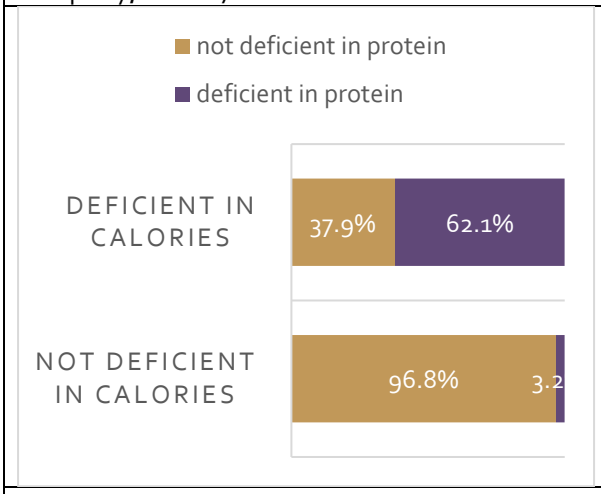
Table 3: Millions of Afghans with deficiencies in their diet, ALCS 2016-17

	Inadequate dietary diversity and Protein deficiency			
	------- Adequate diversity -------		------ Inadequate diversity ------	
Caloric deficiency	**Not deficient in protein**	**Deficient in protein**	**Not deficient in protein**	**Deficient in protein**
Not deficient in calories	11.8	0.4	3.4	0.4
Deficient in calories	2.6	4.2	0.9	5.5

Source: Staff estimates based on ALCS 2016-17 (NSIA).

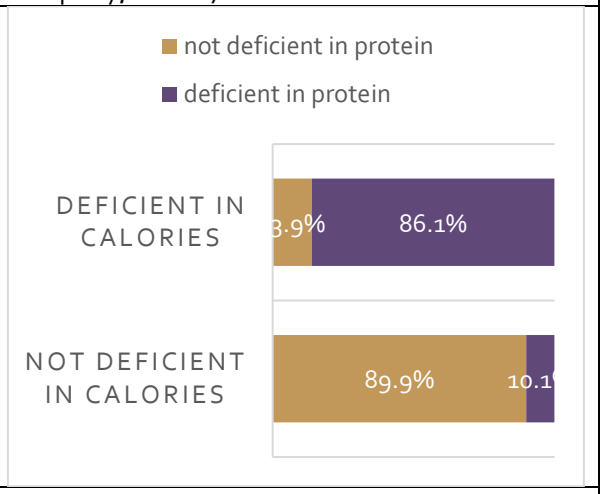
Among Afghans with adequate dietary diversity, caloric sufficiency and protein sufficiency go hand in hand. About 65 percent of Afghans have *adequate* dietary diversity. Among those, still 35 percent are calorie deficient and 24 percent are protein deficient (Figure 19). Among those with *inadequate* dietary diversity, caloric and protein deficiency overlap. About 35 percent of Afghans have inadequate dietary diversity. Among those, 62 percent are calorie deficient and 57 percent are protein deficient (Figure 20).

Figure 19: Calorie deficiency and protein deficiency for Afghans with *adequate* dietary adequacy, 2016-17



Source: Staff estimates based on ALCS 2016-17 (NSIA).

Figure 20: Calorie deficiency and protein deficiency for Afghans with *inadequate* dietary adequacy, 2016-17

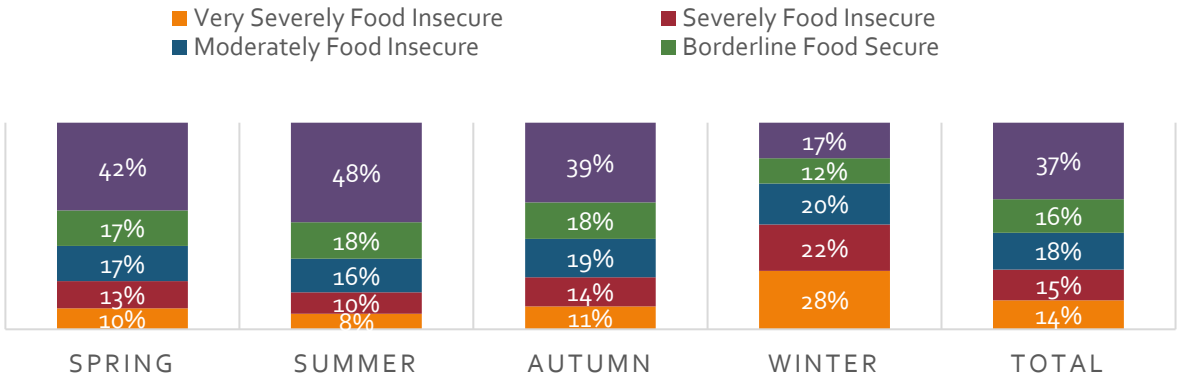


Source: Staff estimates based on ALCS 2016-17 (NSIA).

Food insecurity is high, especially in winter months

Seasonal hunger is a pervasive feature of food insecurity in Afghanistan. In 2016-17, food insecurity was much higher during the winter months: compared to a yearly average of 37 percent of the population consuming adequate calories, in the winter months, this drops to 17 percent (Figure 21). Many parts of the country are snowbound or difficult to access in the winter months. In addition, agricultural activity comes to a standstill, and in many rural areas, there are few alternative sources of employment or livelihoods. Consequently, seasonal hunger due to lack of incomes and employment and in some areas, lack of access to food, is evident across survey years.

Figure 21: Food insecurity by season, 2016-17



Source: Staff estimates based on ALCS 2016-17 (NSIA).

Inaccessibility to markets leads to chronic food security risks

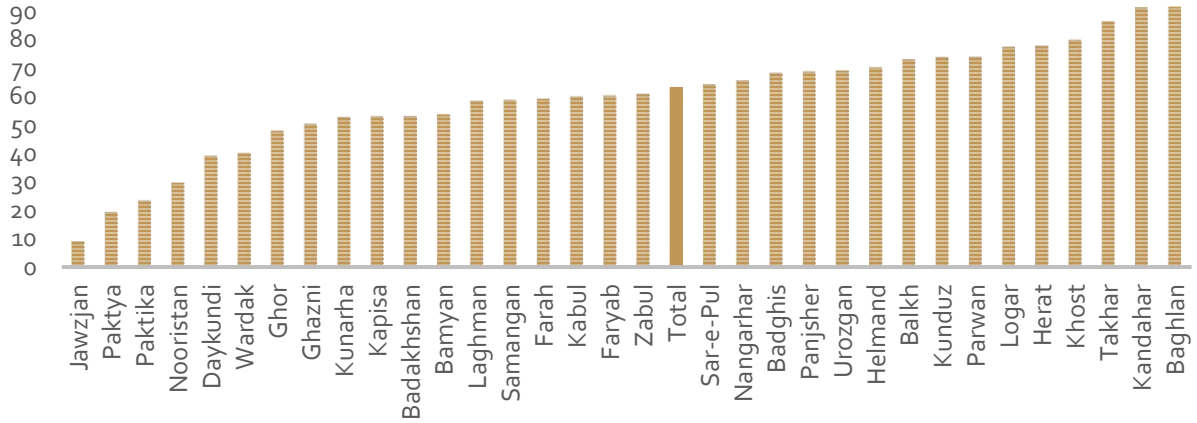
Food availability may be proxied by the number of food items available in markets as indicated by the District Price Survey of the ALCS[5], as well as by the distance to markets. Figure 22 shows that the number of food items that are available in markets vary widely by province. For example, in Jawzjan, the province with the highest percentage of food insecurity, on average, less than 10 items were available in the markets of the province. On the other hand, markets in Kandahar or Baghlan carried over 90 food items on average.

Food insecurity increases with distance to markets. Food insecurity is higher in areas farther away from markets according to all three measures of food insecurity. About 12 percent of the Afghan population

[5] The DPS module covers the prices of all food items in the consumption module and a few other items such as grains and fuels. DPS data were collected during the ALCS survey visits to the Primary Sampling Units. Team supervisors were responsible to visit the markets of the respective districts (or nahia in urban areas) and to administer the survey. The identification of the relevant market to be surveyed and its location – whether it would be in the district headquarters, provincial capital, or in a neighboring district – were guided by key informant interviews within each community.

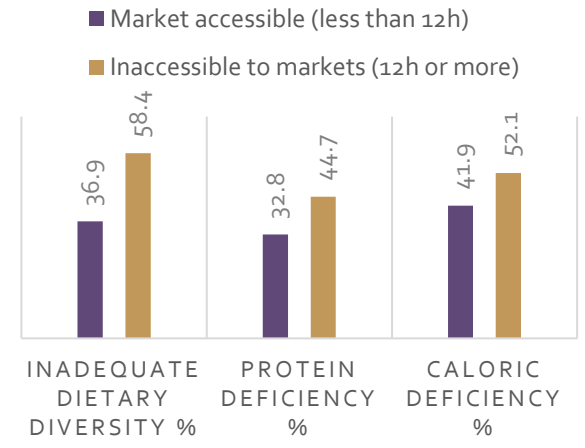
lives in areas with low accessibility to markets[6]. These households do much worse in terms of food security outcomes. Over half of all households with low accessibility to markets are calorically deficient, 45 percent are protein deficient, and 60 percent have an inadequate dietary diversity (Figure 23). Similarly, households living in areas where the nearest market had no food items available[7] (9 percent of all households) perform worse on all food security measures (Figure 24).

Figure 22: Average number of food items available in markets by province, 2016-17



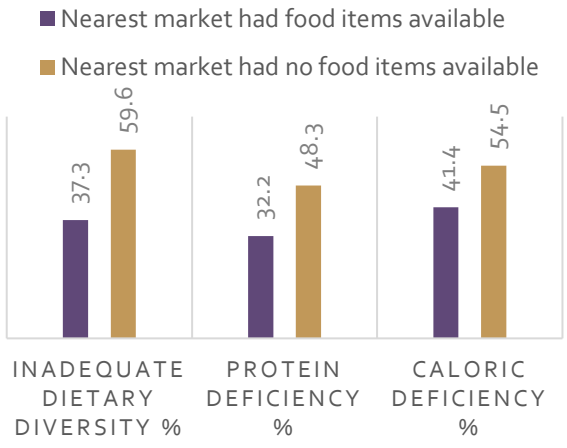
Source: Staff estimates based on ALCS 2016-17 (NSIA).

Figure 23: Food insecurity measures by market accessibility, 2016-17



Source: Staff estimates based on ALCS 2016-17 (NSIA).

Figure 24: Food insecurity and availability of food items by market accessibility, 2016-17



Source: Staff estimates based on ALCS 2016-17 (NSIA).

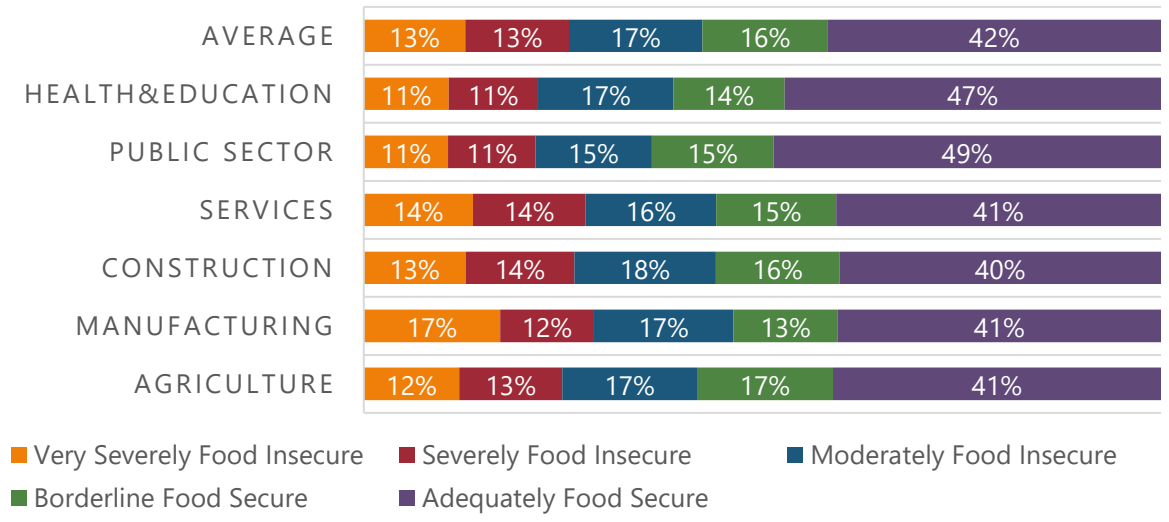
[6] Low market accessibility is measured by whether households live more than twelve hours (by foot or bicycle) away from the nearest market or report having no market accessible.

[7] Markets in rural areas tend to have "market days" (a certain day of the week where vendors/households come to the market to sell their goods). Markets with no food items available may be in areas where the market day did not coincide with the District Price Survey data collection. The results may thus reflect not only markets which carry few food items or those areas who depend on markets where goods are sold infrequently.

Food insecurity is high irrespective of employment sector

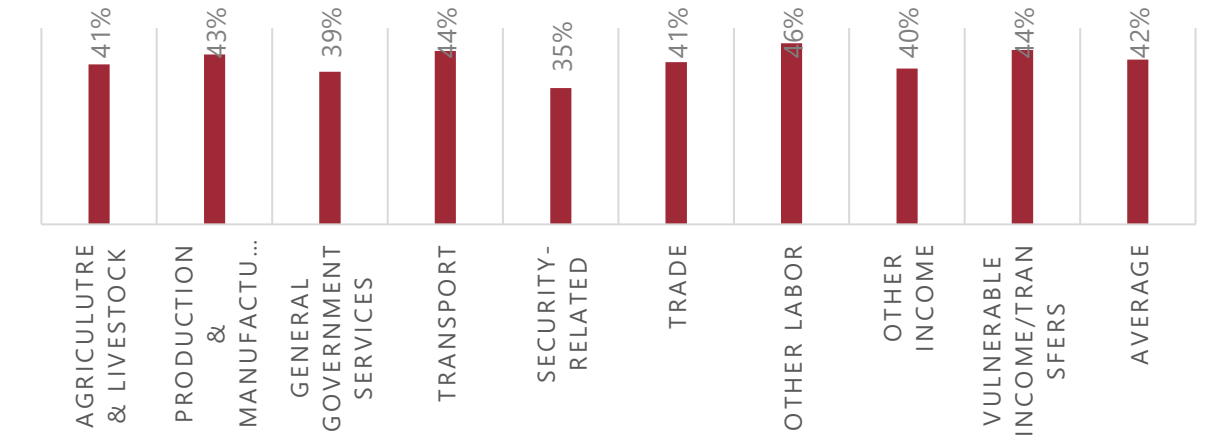
Food insecurity is closely correlated with poverty. Like poverty, certain household characteristics such as employment or income sources are strong determinants of food insecurity. Households with heads working in the public sector or health and education are less likely to be food insecure. On the other hand, Afghans living in households where the household head is employed in manufacturing and construction are most likely to be food insecure. Similarly, Afghans living in households with government sector or security as the main income source are less food insecure. Despite producing one's own food, being engaged in agricultural activity is not a guarantor for food security; 41 percent of Afghan living in households with a main income source of agriculture and/or livestock are food insecure (Figure 25).

Figure 25: Food insecurity by sector of employment of head of household, 2016-17



Source: Staff estimates based on ALCS 2016-17 (NSIA).

Figure 26: Food insecurity by main income source, 2016-17

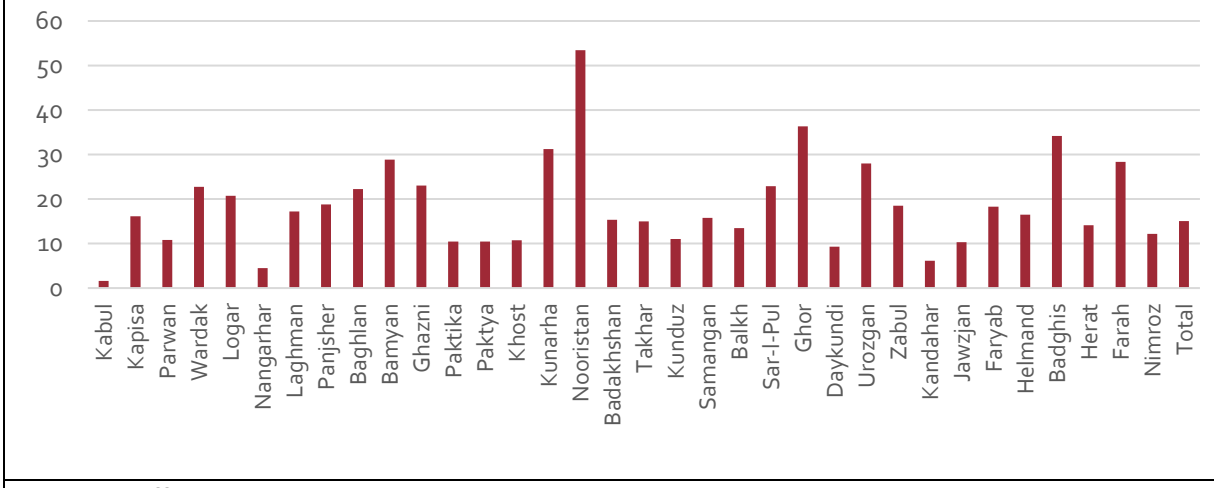


Source: Staff estimates based on ALCS 2016-17 (NSIA).

Self-producers are at dual risk to food insecurity

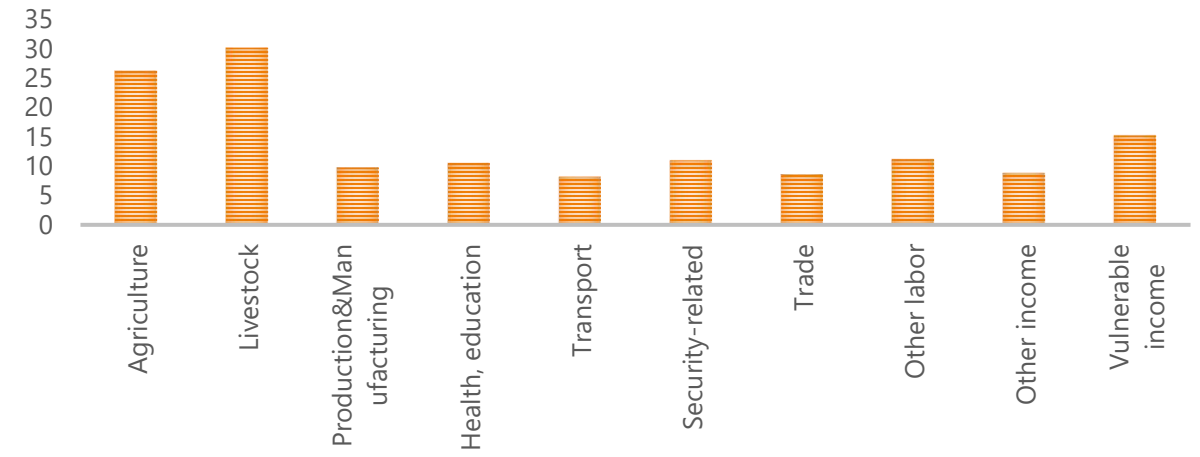
In general, Afghan households are reliant on the self-production of food. On average, 15 percent of food expenditures of Afghan households comes from self-production. This reliance is twice as high in certain provinces – Urozgan, Farah, Bamyan, Kunarha, Badghis, Ghor and Nooristan (Figure 27). Self-production of food is particularly important for households dependent on vulnerable employment such as own-account workers and unpaid family work, and for households whose primary source of livelihoods is farming or livestock. For the latter, over 30 percent of all food expenditures are sourced from self-production (Figure 27). Across the country, self-produced items are part of the staple food basket of households and include wheat, barley, maize, dried meat, milk and milk products, and eggs.

Figure 27: Share of food expenditure from self-production, by province



Source: Staff estimates based on ALCS 2016-17 (NSIA).

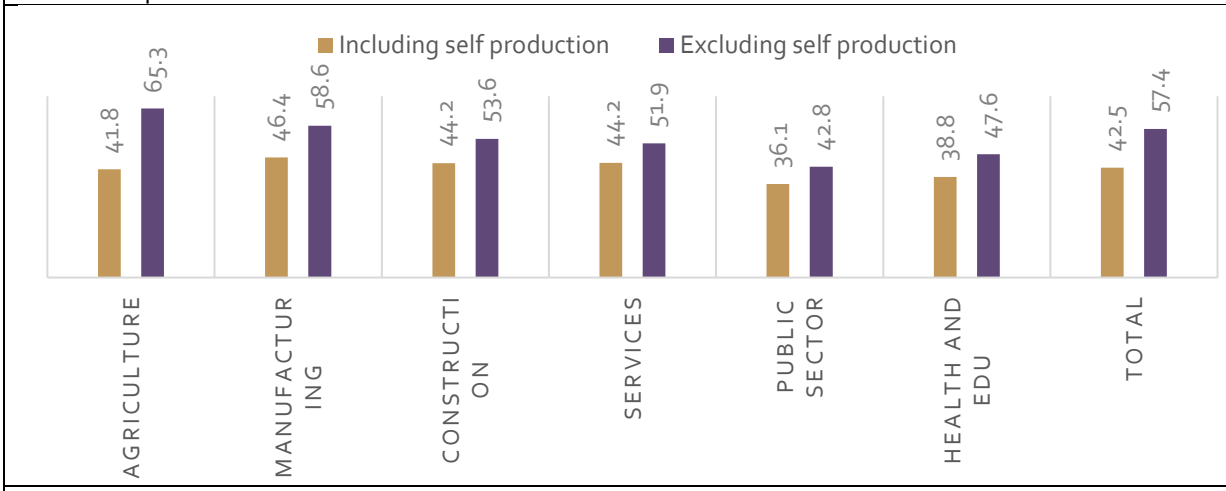
Figure 28: Share of food expenditure from self-production, by income source



Source: Staff estimates based on ALCS 2016-17 (NSIA).

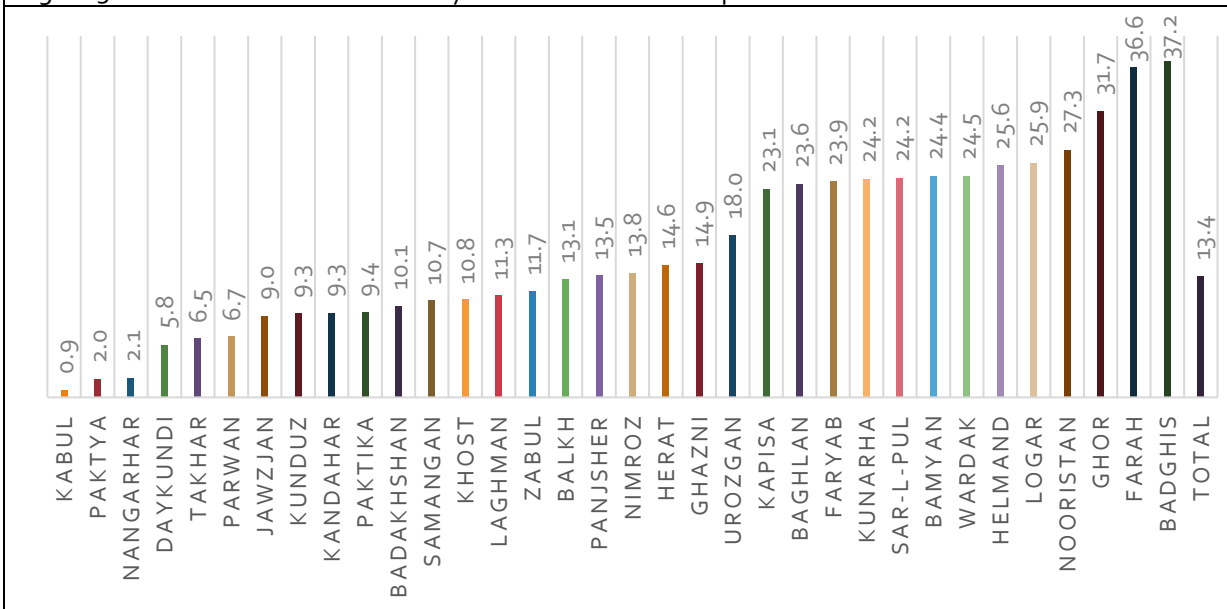
A simulation exercise suggests that overall caloric deficiency would increase to 57 percent for the country as a whole if self-production of food went to zero with no change in household incomes (Figure 29). In times of drought, agricultural households face a dual challenge, as their main source of livelihoods falters, and they lose a significant share of food consumption that is self-produced. For these households, even if food were available in local markets, their ability to generate incomes to purchase food would become severely compromised. Indeed, agricultural households would face rates of food insecurity as high as 65 percent, and provinces where farming and livestock are the predominant sources of livelihoods such as Nooristan, Ghor, and Badghis (provinces with high reported lack of market access) would experience the highest increases in food insecurity (Figure 29)

Figure 29: Estimated increases in caloric deficiency due to a complete loss of self-produced food, by main sector and province



Source: Staff estimates based on ALCS 2016-17 (NSIA).

Figure 30: Increase in caloric deficiency in the absence of self-production

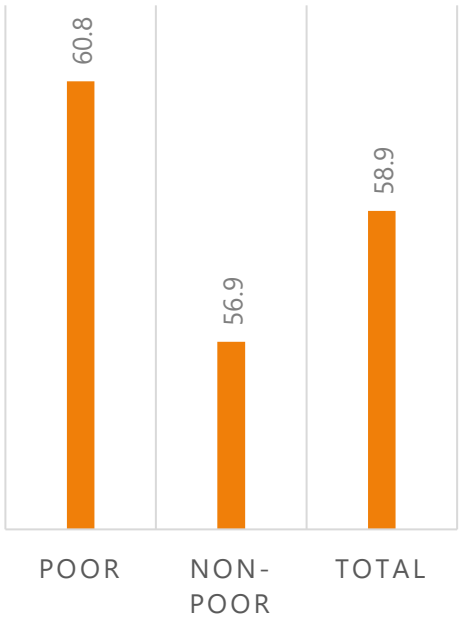
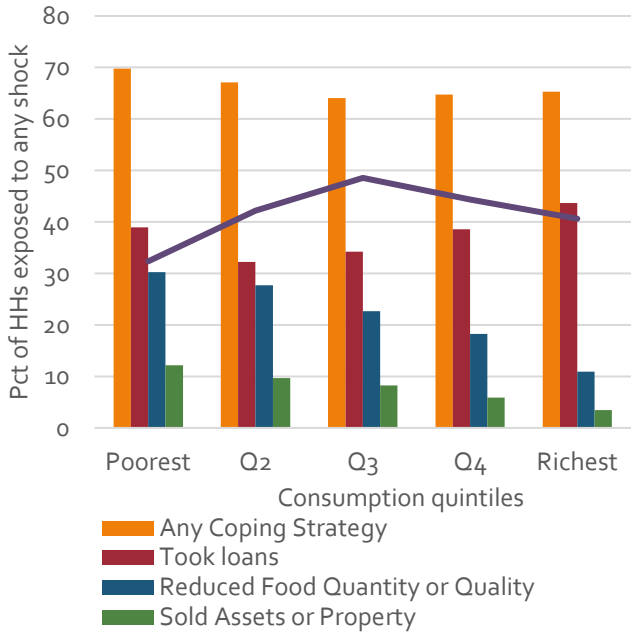


Source: Staff estimates based on ALCS 2016-17 (NSIA).

A vicious cycle: Coping with food insecurity

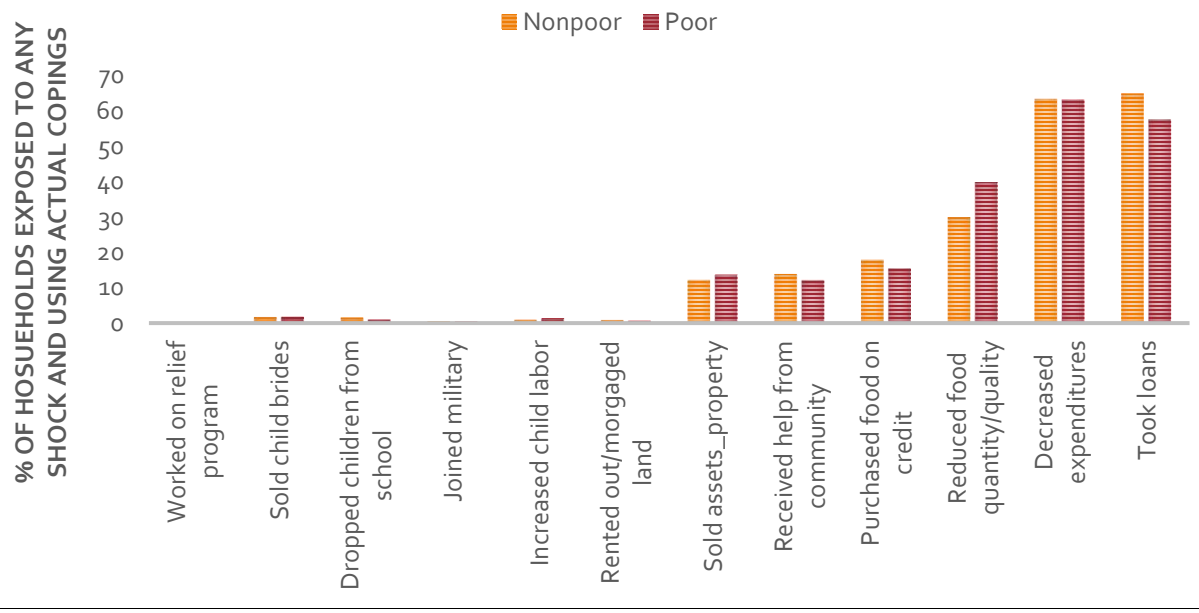
Almost 6 out of 10 Afghan households were affected by a shock in 2016-17 (Figure 31). Over half of households were affected by a covariate shock, a shock that affects the entire community or region, and about one third were affected by an idiosyncratic shock, a shock that affects specific households.[8] More than 65 percent of Afghan households adopted harmful coping strategies in the face of adverse shocks. While reliance on loans is widespread, poorer households disproportionately relied on reducing food quality or quantity or on selling assets or property, further compromising food security and resilience to shocks (Figure 32). About 70 percent of the poorest households exposed to shocks used at least one coping mechanism but poorer households are also more likely to not apply a coping mechanism ("do nothing", which may well be an adverse strategy).

[8] Covariate shocks include reduced drinking water; reduced agricultural water; unusually high level of crop pests or diseases; severe loss of opium production; unusually high level livestock diseases; reduced availability of grazing areas; reduced availability of Kuchi migration routes; natural disaster (earthquakes, landslides, avalanches); extreme weather conditions, negatively affecting crops or income earning; large influx of returnee households; unusually high increases in food prices; unusual decrease in farm gate prices; or insecurity, violence, theft. Idiosyncratic shocks include strongly reduced household income (e.g. loss of employment or salary, business bankruptcy); serious illness, accident or death of working household member; serious illness, accident or death of other household member; loss of house, land or livestock.

Figure 31: Affected by any type of shock, 2016-17	Figure 32: Coping strategies, for households exposed to a shock, 2016-17
	
Source: Staff estimates based on ALCS 2016-17 (NSIA).	Source: Staff estimates based on ALCS 2016-17 (NSIA).

Reducing expenditures and taking loans were the most common coping strategies in response to shocks for all households, poor and non-poor alike (Figure 33). Poor households disproportionately rely on reducing food quality or quantity or on selling assets or property, further compromising food security and resilience to shocks. Non-poor households are more likely to not need any coping mechanism to compensate for losses arising from shocks. Coping strategies such as renting or mortgaging land, taking children out of school, working on relief programs, joining the military, and selling child brides were reported less frequently by all households.

Figure 33: Applied coping strategies, poor and non-poor, 2016-17



Source: Staff estimates based on ALCS 2016-17 (NSIA).

Conclusion and policy recommendations

Food security has increased in line with poverty and 13 million Afghans (or 45 percent of the population) are food insecure in 2016-17. Food insecurity was on the rise prior to the 2018 drought and has a clear spatial and seasonal dimension. Food insecurity and lack of incomes are closely related and reflected in insufficient dietary diversity. Afghan households' heavy reliance on self-production of food makes them vulnerable to food insecurity risks by reducing their ability to produce food as well as their ability to generate income. Poor households disproportionately rely on reducing food quality or quantity or on selling assets or property, further compromising food security and resilience to shocks.

Food insecurity is exacerbated by climatic occurrences such as drought but also by a lack of growth in agricultural output, which combined with population growth, leads to an unequal access to agricultural resources. The current drought thus exacerbates already existing severe food insecurity in Afghanistan. In the short term, humanitarian assistance can reduce the urgent need for food but in the medium to long term, food security objectives have to be incorporated into national policies on poverty reduction strategies. Strategies aiming at reducing hunger and poverty need to consider impacts at the national, sub-national, household and individual level.

Though more severe in rural areas, food insecurity is also an urban phenomenon and addressing the urban dimensions of food insecurity is key considering population pressures resulting from rural and displaced Afghans moving to cities. Addressing the unique factors behind increasing urban poverty and improving food security is key in ensuring all Afghans can access markets and food items at affordable prices with sufficient diversity.

The findings of this report highlight the need for policy action along the following lines:

1. An adaptive safety nets program that is sensitive to seasonality in hunger and livelihoods, geographic need and targets specific vulnerabilities.
2. Identification of communities chronically underserved by markets or inaccessible, which could be prioritized for spatial targeting and tertiary roads improvements in the short run, as safety nets are scaled up.
3. In the medium term, diversification of livelihood opportunities in rural areas and investments in improving yields, livestock and livestock product quality.
4. Medium-term interventions to support improved nutrition and care for vulnerable groups including health campaigns for pregnant women and mothers, nutritional supplements for mothers and children, targeted support for the elderly and the disabled, and school feeding interventions.

References

FAO (2002). The State of Food Insecurity in the World 2001. Rome.

FAO (2006). Policy Brief, June 2006, Issue 2.

Annex: Calculating food security indicators

As in previous rounds, the ALCS 2016-17 includes a very detailed food consumption module in which female respondents are asked about household consumption (quantities/units consumed) for 92 food items, divided into nine food groups, over the past seven days. Food consumption data include food which was bought, home produced and food that might have been acquired by means of non-monetary transactions such as gifts and food aid.

For each of the nine food categories, a residual (or "other") food category item was included. Lacking a price for these residual categories, proxy prices were defined for each "other" category to be the median price for items in each food group as done in the consumption aggregate in 2007-08. Since price information was not available for every food item in all districts and markets at all times of the year from the DPS, missing prices were imputed, based on information for the closest available prices, to obtain a complete price matrix.

A final component of total food consumption is the total value of meals consumed outside home, i.e. in restaurants, prepared food purchased from the marketplace, etc. The ALCS 2016-17 collected this information in section 9 of the Male Household Questionnaire by asking "What did the household spend in the last month for food and drinks consumed outside the home", and accordingly the total value of food away from home was included in the estimation of total food consumption.

The number of food items in 2016-17 remained constant over time compared to the previous survey rounds, although broccoli was replaced with fresh apricots on the list of food items. The consumption modules of NRVA/ALCS series were designed to (i) account for seasonal products, hence adapting instruments to the year-round nature of the survey; (ii) include a wide variety of products consumed by households; and (iii) cover food items that do not contribute to caloric count but were nevertheless consumed by households such as beverages and spices.

Nutritional information per unit of consumed food

There are a variety of sources that can be used to acquire nutritional information on food items such as government sources or sources of international organizations. Government sources do not exist for Afghanistan and we therefore applied the food composition tables from the World Food Program (WFP) which are a modified version from FAO's Food Composition Tables (modified for local purposes). Table 4 provides a list of all food items covered in the consumption module of the ALCS 2016-17, including their respective caloric content per kilogram.

Table 4: Food Items in ALCS 2016-17 and their caloric content

ALCS Food Stuff	Kcal/Kg 2016-17	ALCS Food Stuff	Kcal/Kg 2016-17
Food Group 1: Bread and Cereals		*Food Group 5: Vegetables*	

Rice (high quality)	3630	Radish	280
Rice (low quality)	3630	Turnip	230
Wheat flour	3570	Cabbage	160
Wheat flour (farm gate)	3570	Leek	440
Purchased nan	2840	Hot pepper	290
Barley	3270	Wild leafy vegetables	190
Maize (corn)	3630	Coriander	190
Beans	3500	Mint	240
Mung	3610	Dried tomatoes	2590
Chick peas	3570	Dried vegetables	2027
Lentils	3540	Pickled vegetables	185
Pasta/ macaroni	3790	Green beans	420
Other bread and cereals	3495	Other vegetables	272
Food Group 2: Meat and Fish		*Food Group 6: Fruit and Nuts*	
Beef	1240	Apple	490
Veal	1240	Grapes	670
Mutton	2355	Melon/ Watermelon	270
Goat	1570	Peach	460
Chicken	1270	Fresh Apricots[9]	520
Liver	1440	Dried Apricots	2960
Dried meat	6295	Orange/citrus	330
Fish	450	Plum	460
Other Meat and fish	1202	Pomegranate	430
Food Group 3: Milk, cheese, and eggs		Pear	560
Milk (fresh)	780	Banana	920
Milk (powdered)	5070	Raisins	2930
Yogurt	1530	Fresh mulberries	820
Curd (Chaka)	1530	Dried mulberries	3330
Krut (dried)	4841.77	Mangoes	400
Dogh	140	Walnuts (without shells)	6600
Ghee	8730	Pistachio (without shells)	5340
Butter	6930	Almonds (without shells)	5770
Cheese	3210	Other Fruit	528
Eggs (number)	1420	*Food Group 7: Sugar and Sweets*	
Other dairy products	995	White sugar	3860
Food Group 4: Oils and fat		Brown sugar	3860
Vegetable oil, cotton oil, or sesame oil	8840	Honey	3120

[9] A decision was made to include fresh apricots in the consumption aggregate (as in the past, households would have put the consumption of fresh apricots in the "other fruit" category). However, due to missing fresh apricots in the food bundle of 2007-08, this item is not included in the calculation of the food poverty line.

Animal fat	9020	Chocolates/ Candy Sherinigack	3000
Other oils/ fat	8930	Black tea	0
Food Group 5: Vegetables		Green tea	0
Potato	750	*Food Group 8: Beverages*	
Sweet potato	920	Bottled/ canned beverages mineral water (liters)	0
Onion	420	Other Beverages	0
Tomato	180	*Food Group 9: Spices*	
Okra	390	Salt	0
Spinach	250	Black pepper	2370
Cauliflower	150	Ginger and garlic	895
Eggplant	330	Tomato sauce	570
Carrots	370	Mixed spices	0
Pumpkin/ squash	270	Other spices	0
Cucumber	170		

Notes: No Caloric intake was assigned to the "Other" category in any food group; Caloric intake of lamb used as reference for mutton; Calorie estimates were received from the World Food Program (WFP) which are a modified version from FAO's Food Composition Tables (modified for local purposes), based on edible portions.

Source: Based on ALCS 2016-17 questionnaire; WFP.

The ALCS collects consumption data for raw quantities. Most items are collected using grams but in cases where this was not the case (i.e. number of eggs), the team converted all quantities to grams. For Items for which it is difficult to infer nutritional content (e.g., processed food and food away from home), we assumed zero nutritional content.

When merging food quantities and nutritional information, we multiply the nutrients contained per unit of each food item. We also reduced the consumption by the wastage factor by only considering the edible portion. For example, one typically leaves an apple core, and the database provides a share of each 100 grams that would be such waste.

Processed foods and food away from home

With a changing diet, more and more calories are consumed from food that is purchased and/or eaten away from home and processed foods. Processed foods and food away from home are challenging when analyzing food security. In Afghanistan, only about 3 percent of expenditure on food is spent on food purchased and/or eaten away from home. Given this minor role of calories coming from food away from home, the team decided to drop food away from home from the analysis on food security.